

### ABSTRACT OF THE INVENTION

A nanocomposite optical plastic article has a plastic host material with a temperature sensitive optical vector ( $x$ ) and a core shell nanoparticulate material dispersed into the plastic host material. The core shell nanoparticulate material is characterized by a core defined by a nanoparticulate material which has a temperature sensitive optical vector ( $x_1$ ) and a shell defined by a coating material layer coated onto the core. It is important to the invention that temperature sensitive vector ( $x_1$ ) is directionally opposed to the temperature sensitive optical vector ( $x$ ) and  $n_{\text{shell}} < n_{\text{plastic host}} < n_{\text{core}}$ .